Tasks Aren't Always As Simple As They Seem

By AM2(AW) Randy Wade

I just was getting back into the swing of maintenance after being transferred from the trouble-shooters branch back to airframes. An AM3 and I were instructed by our mid-check supervisor to remove a lower tank lid on LL-14, a P-3 Orion. The AM3 had done this job numerous times before, so we anticipated a routine and simple task. What we soon encountered was neither routine, nor simple.

Earlier that evening, night shift had been instructed to remove the same lower tank lid. They had had difficultly removing the screws and only partly had completed the work. Because of a shift change, the night shift left the job with 11 screws that would have to be drilled out. Heading out to the aircraft, my AM3 was pulled off to install a hydraulic-pressure line for the landing up-lock on another aircraft. I continued out to LL-14 and started the job alone.

After removing all the screws, I gathered a putty knife, a screwdriver, and a rubber mallet to remove the tank lid. I removed the pro-seal from the lip of the lid and attempted to remove the lid, but it would not budge. I put the screwdriver between the lid and the skin and tried to pry off the lid. I "walked" the screwdriver around the entire edge of the panel, pulling down to get it to release from the aircraft. No joy. The AM3 returned to help out, after putting his tools away from his other task. I had been working on the lid removal for a few hours now, so his arrival was much welcomed.

Morning quickly was approaching, and day check was getting ready to report for duty. We took a break and headed into the hangar to discuss the problem with our CDI. He told us we could stop working on the gripe and could pass down the job to day check, if we wanted, to see if they had any suggestions. Being ambitious and determined to finish the job, we decided to continue, trying to complete the task before shift change, which would be at 0730.

We went back out to the aircraft, and the AM3 continued the work. I suggested he use the rubber mallet to insert the screwdriver a little bit farther behind the lid to make sure we were past any sealant that might be holding it. He hit the screwdriver and drove it deeper than expected and inadvertently punctured the edge of the inner lip. Unaware of the lip puncture, he proceeded to pull down on the tank lid to pry it loose. We heard a loud "pop." As the radius of the inner tank lip gave way, it ripped the lip from one corner to the other. After realizing what just had happened, we went back to the shop to tell our CDI about the damage.

Maintenance control and QA were notified of the situation, and they investigated the incident. Once the tank lid was removed, QA, maintenance control, and a naval-aviation depot determined that the problem had originated during earlier maintenance on the tank lid. Someone had applied an excessive amount of topcoat and had sealed the lid to the lip. That maintenance lapse made it difficult to remove the lid. Maintenance publications do not give instructions on how to remove lids; it directs only to remove them. Two pry points on the leading edge of fuel-cell panels are marked with notches cut in the corners of the panel, but this fact is not described in the procedures. Had pressure been applied on this area, damage would have been avoided. The final cost to repair the wing plank was $14,000, and the fix required 52 days and 932 man-hours to complete. We learned several lessons, but these two critical ones stand out: Not following proper maintenance procedures can lead to costly maintenance repairs, and, if a procedure is not clearly stated or if you're unsure of the proper procedure, use the knowledge and experience of the people around you.

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Panels easily can be damaged when the wrong procedures are used or when "the book" doesn't give clear steps.